

# 2

## PROPOSED ACTION AND ALTERNATIVES

---

This chapter describes: the proposed action, the full range of alternatives considered to achieve FHWA's goals for the proposed action, the process of evaluating the alternatives, and the three alternatives under further consideration: the No Action Alternative, Alternative 4, and Alternative 4V. These three alternatives will remain under consideration until agency and public comments have been received on this EA. Following the public review period and public meeting on the alternatives and the EA, FHWA will select a preferred alternative. The final alternative may include elements of any of the three alternatives under study.

---

### 2.1 Proposed Action

FHWA, in cooperation with the Kennedy Center, NPS, DDOT, NCPC, and CFA, is proposing to improve access to the Kennedy Center. A variety of urban design and transportation system improvement concepts have been developed to meet the goals of the proposed action (these goals are summarized in Subchapter 1.1.3). The following subchapters describe the alternatives that are being considered to achieve the proposed action.

---

### 2.2 Development of Alternatives

The process the KCAI project followed to develop, analyze, and evaluate alternatives, and then to select a few for further consideration, is outlined below. The *Kennedy Center Access Improvements Candidate Alternatives Report* (FHWA, 2003b) documents in more detail the process and the alternatives summarized in this subchapter.

---

#### 2.2.1 Incorporation of Kennedy Center Access Study (KCAS) Recommendations

Much effort was expended in the previous KCAS (FHWA 2000) (see Appendix D, Section D2) to collect background information and to develop and analyze alternatives for improving access to the Kennedy Center. When the KCAI project began, the KCAI study team used the KCAS results as the baseline for developing alternatives. The initial KCAI alternatives incorporated options (parts of alternatives) recommended for further study by the KCAS. The KCAI study team then developed new options for study.

Two sets of options that were not recommended or were provisionally recommended for further study by the KCAS were revived for further analysis by the KCAI study team at the request of the KCAI steering committee because of their appealing urban design effects. They are: 1) remove the Potomac Freeway and restore the historic street grid with a grade-level intersection at Constitution Avenue and 25<sup>th</sup> Street, and 2) remove the freeway and restore the street grid using a grade-separated interchange at Constitution Avenue and 25<sup>th</sup> Street.

---

## 2.2.2 Collection of Background Information

After reviewing the background information collected by the KCAS, the KCAI study team collected a broad array of information on conditions in the study area and, where relevant, in the District and the region. The information included not only past and existing conditions, but also planning studies and projects underway in the study area. Information on the transportation system and environmental, social and economic conditions in the study area was a particular focus of the collection process. The objectives of this effort were to provide background data for the development of alternatives, for the evaluation process, and for the analysis of the impacts of the final alternatives in this EA. The more-detailed data collection process of the KCAI project allowed a deeper understanding of study-area conditions than was possible in the KCAS. The information collected is detailed in the *Kennedy Center Access Improvements Existing Conditions Report* (FHWA 2003) and summarized in Chapter 3 of this EA.

---

## 2.2.3 Urban Planning and Design

One of the goals of the KCAI project is to “Improve the setting of the Kennedy Center in keeping with its function and importance as a national monument and cultural center, and enhance its connection with the city.” To meet this goal, the KCAI project undertook urban design studies to develop plans and preliminary designs for the following:

- Pedestrian and bicycle circulation patterns and connections related to Kennedy Center access.
- Building massing and footprints for the Kennedy Center’s two proposed buildings.
- A new plaza to the east of the Kennedy Center atop the Potomac Freeway.
- A pedestrian link from the Kennedy Center River Terrace to the Potomac River.
- Streetscapes for surface roadways and pedestrian/bicycle trails.
- Landscaping for the proposed Kennedy Center buildings.
- Urban design and landscape features related to the ends of the E Street Expressway and connections to the National Mall.

As urban planning developed, design features were incorporated into the overall transportation plan, with an emphasis on connecting the Kennedy Center to the District street grid.

## 2.2.4 Transportation Planning and Design

Parallel to development of the urban planning and design alternatives, and as part of the integrated alternatives evaluation and selection process, preliminary transportation planning and traffic analysis was conducted. The issues, opportunities and constraints identified in the *Existing Conditions Report* were used to develop screening criteria for transportation planning objectives that helped in the preliminary evaluation of the alternatives. These criteria took into consideration the opportunities created by the urban planning and design alternatives to maintain and enhance access, including multi-modal – pedestrian, bicycle, vehicle, mass transit, and water transport – linkages with the surrounding community and with the Monumental Core.

---

## 2.2.5 Definition of Focus Areas

Through review of the KCAS, collection of new information, urban design studies, and preliminary transportation planning and design, seven focus areas for improvement of access were identified (and are illustrated in Appendix A, Figure 2-1, Access Focus Areas):

1. Connection of the Potomac Freeway with Rock Creek Parkway at Virginia Avenue and 27th Street and connection of the Rock Creek Parkway Trail with the Georgetown Waterfront Trail.
2. Pedestrian/bicycle access across Juarez Circle.
3. Pedestrian access from the Kennedy Center River Terrace to the riverfront Rock Creek Parkway Trail, and a new floating dock serving water taxis and riverboats.
4. A plaza either atop a deck over the Potomac Freeway or at grade, with links to the north via New Hampshire Avenue and 25th Street extended, and to the east along E Street.
5. Links to points east via E Street.
6. Pedestrian/bicycle access between the National Mall and the Kennedy Center.
7. The intersection of Ohio Drive/Potomac Freeway/Rock Creek Parkway northwest of the Lincoln Memorial.

Because of the unique needs and criteria for each of the seven focus areas, each area was studied individually and then integrated into alignment alternatives for final study.

---

## 2.2.6 Coordination with Agencies and the Public

As detailed in Subchapters 1.4 (Agency Coordination) and 1.5 (Public Involvement), the KCAI study team had extensive interaction with public agencies through the project steering committee and coordination meetings. Interaction with the public occurred through: two public information meetings held two months and six months after the project began, meetings with the community, newsletters, and webpages. These interactions yielded background information and guided the selection and evaluation of access and urban design alternatives.

## 2.2.7 Development of Alternatives

Development of the alternatives was guided by the project's overall purpose and need and the considerations described in the preceding subchapters, while avoiding environmental impacts to the maximum extent practicable. Considered in the development of each alternative were DDOT and NPS standards and guidelines.

As described in Subchapter 1.2 and illustrated in Appendix A, Figure 1-3, the study area was divided into three sectors – North, South, and Center – for analytical purposes. In each sector, design options that addressed the seven focus areas described above were developed. For instance, several optional ways to improve the Rock Creek Parkway and Potomac Freeway connection were examined and refined.

The study team developed alternatives by combining options from each of the three sectors to form one roadway design alternative that would carry traffic through the study area. Each of the alternatives included urban design enhancements: a Kennedy Center plaza, a pedestrian link to the riverfront, a dock, and pedestrian/bicycle paths and sidewalks. The development of alternatives was an iterative process, with the group of alternatives under study being refined and expanded based on comments from the project steering committee and the public and on analysis of the feasibility of roadway alignments, traffic and pedestrian/bicycle movement impacts, urban design issues, and a broad range of environmental impacts.

Eleven build alternatives plus the No Build Alternative were presented for public comment at the second public meeting for the project, held August 7, 2002. These alternatives fell into three groups, with the alternatives within each group sharing a number of common features. These eleven initial alternatives and the three groups are briefly described below and illustrated in Appendix E. They are fully described in the *Kennedy Center Access Improvements Candidate Alternatives Report* (FHWA, 2003b).

### 2.2.7.1 Group I Alternatives

Group I included Alternatives 1, 2, 3, 4 and 4A, which share the following common features:

- Maintain established traffic patterns.
- Reduce congestion.
- Make safety improvements on key approaches to the Kennedy Center.
- Create improved pedestrian/bicycle connections in the study area.
- Create a pedestrian link from the Center to the riverfront.

Each Group I alternative, with the exception of one – 4A – features an elevated plaza built atop the Potomac Freeway east of the Kennedy Center. The plaza extends east along E Street to 23<sup>rd</sup> Street and Virginia Avenue. Twenty-fifth Street is extended and intersects with E Street on the plaza. The plaza re-establishes connection to the existing street grid to the north and east. To build the plaza, the ramp from southbound Potomac Freeway to the eastbound E Street Expressway is removed. All other freeway movements are maintained, and expanded parking facilities are provided under the plaza, including a direct exit connection to westbound Roosevelt Bridge. The Group I alternatives

are illustrated in Figures E-1 through E-5 in Appendix E.

**Alternative 1** – *Deck over Potomac Freeway; no North or South Sector improvements.*

A plaza is built over the Potomac Freeway on a deck in the Center Sector, as described above. No improvements are made in the North or South Sectors.

**Alternative 2** – *Deck over Potomac Freeway plus North Sector improvements; no South Sector improvements.*

The Center Sector deck atop the Potomac Freeway is built. In addition, to remove congestion and improve safety at Rock Creek Parkway and Virginia Avenue/27<sup>th</sup> Street, a direct connection to the parkway is provided for northbound freeway traffic. A direct connection to the freeway north of the existing connection at Virginia Avenue is provided for southbound Rock Creek Parkway traffic. This eliminates conflicts at 27<sup>th</sup> Street, Virginia Avenue, and I Street and improves safety. No improvements are made in the South Sector.

**Alternative 3** – *Deck over Potomac Freeway plus South Sector improvements; no North Sector improvements.*

The deck is added in the Center Sector. In addition, to improve safety at the intersection of Ohio Drive and the Potomac Freeway, and to reduce congestion for Roosevelt Bridge traffic exiting toward Ohio Drive and the parkway, a bridge is built for southbound freeway traffic crossing Ohio Drive. The exit ramp from the Roosevelt Bridge to northbound Rock Creek Parkway is improved to reduce delays for Kennedy Center-bound traffic. No improvements are made in the North Sector.

**Alternative 4** – *Deck over Potomac Freeway; improvements in both North and South Sectors.*

In addition to the deck in the Center Sector over the Potomac Freeway, Alternative 4 includes the North Sector improvements in Alternative 2 and the South Sector improvements in Alternative 3.

**Alternative 4A** – *No deck over Potomac Freeway; improvements in both North and South Sectors.*

Alternative 4A includes the same improvements in the North and South Sectors as included in Alternative 4, but it does not include a deck over the Potomac Freeway.

## **2.2.7.2 Group II Alternatives**

Alternatives 5 and 6 comprise Group II. Both Group II alternatives would:

- Redirect Independence Avenue-bound traffic from Rock Creek Parkway to the Potomac Freeway, an underutilized facility.
- Reduce congestion on Rock Creek Parkway.
- Improve safety by eliminating large traffic volumes and turning movements at Virginia Avenue/Rock Creek Parkway in the North Sector and Ohio Drive in the South Sector, both key approaches to the Kennedy Center.
- Feature a deck over the Potomac Freeway that extends east of the Kennedy Center to 23<sup>rd</sup> Street and Virginia Avenue.

- Remove the ramp from southbound Potomac Freeway to eastbound E Street Expressway to build the plaza.
- Include an extended 25<sup>th</sup> Street that intersects with E Street on the plaza.
- Expand parking beneath the plaza with direct access to the Roosevelt Bridge.
- Create a pedestrian link from the Center to the riverfront promenade.
- Create pedestrian and bicycle connections between the National Mall, the Roosevelt Bridge, and the Kennedy Center.

The Group II alternatives are illustrated in Figures E-6 and E-7 in Appendix E.

**Alternative 5** – *Diverts traffic from Rock Creek Parkway to Potomac Freeway.*

A direct connection is established between the Potomac Freeway and the Rock Creek Parkway in the north, and between the Potomac Freeway and Ohio Drive in the south. Memorial Bridge-bound traffic on Rock Creek Parkway would have to make a right turn at a new 27<sup>th</sup> Street/Rock Creek Parkway/Potomac Freeway intersection. Northbound Rock Creek Parkway remains a scenic route, with access through the Lincoln Memorial Circle. The exit ramp from Roosevelt Bridge to northbound Rock Creek Parkway is maintained. Congestion on the parkway is reduced, improving access to the Kennedy Center and the Memorial Bridge. Northbound traffic from the Center would have to turn left at a signalized intersection to stay on Rock Creek Parkway.

**Alternative 6** – *Diverts traffic from Rock Creek Parkway to Potomac Freeway. Adds an underpass at 27<sup>th</sup> Street/Rock Creek Parkway/Potomac Freeway intersection to Alternative 5.*

Like Alternative 5, but adds a free-flowing underpass for northbound Rock Creek Parkway traffic leaving the Kennedy Center at the new signalized 27<sup>th</sup> Street/Rock Creek Parkway/Potomac Freeway intersection. This would reduce congestion at this intersection and improve travel time.

### 2.2.7.3 Group III Alternatives

Group III includes Alternatives 7, 8, 9, and 10. Under all four of these alternatives, the Potomac Freeway would be replaced by at-grade city streets, thus restoring a portion of the historic street grid from the Whitehurst Freeway in the north to Constitution Avenue in the south. This group of alternatives was strongly supported by steering committee members NCPC, NPS, and CFA because they remove underutilized freeway sections, restore the historic street grid, improve pedestrian/bicycle access throughout the study area, create larger, uninterrupted park areas where monuments and memorials could be placed, and generally improve the urban design of the area around the Kennedy Center. DDOT supported them for the above reasons, but only if they did not worsen traffic conditions.

All Group III alternatives would:

- Build a plaza at grade level on land reclaimed from the Potomac Freeway (the two proposed Kennedy Center buildings would also be at grade level).
- Extend 25<sup>th</sup> Street east of the Kennedy Center from Juarez Circle to an at-grade intersection with Constitution Avenue.

- Extend other streets in the North and South Sectors, including:
  - I Street west to Virginia Avenue/Rock Creek Parkway
  - 26<sup>th</sup> Street south to Virginia Avenue
  - 27<sup>th</sup> Street north to L Street
  - C Street west to intersect with 25<sup>th</sup> Street
- Make E Street into an esplanade extending west past 23<sup>rd</sup> Street.
- Create a pedestrian link from the Center to the riverfront.
- Maintain Rock Creek Parkway connection to the Memorial Bridge.

**Alternative 7** – *Potomac Freeway eliminated; plaza at grade level; Roosevelt Bridge realigned with Constitution Avenue.*

The approach to the Roosevelt Bridge is realigned with Constitution Avenue and the Potomac Freeway, and interchange ramps at the end of Roosevelt Bridge are removed and replaced with an at-grade city street grid, the main feature of which is the extension of 25<sup>th</sup> Street from Juarez Circle to an at-grade intersection with Constitution Avenue. Expanses of open space are created to either side of Constitution Avenue as it nears the Potomac River.

**Alternative 8** – *Potomac Freeway eliminated; plaza at grade level; Roosevelt Bridge maintains existing orientation.*

As in Alternative 7, the Potomac Freeway is removed and replaced with city streets and a grade-level plaza. The approach to the Roosevelt Bridge is not realigned, so a curved connection with Constitution Avenue is created. Rock Creek Parkway continues to be utilized as a through route. Left turns are permitted from the Roosevelt Bridge at the signalized 25<sup>th</sup> Street intersection. Less open space is created than under Alternative 7 because the Roosevelt Bridge does not line up with Constitution Avenue.

**Alternative 9** – *Potomac Freeway eliminated; plaza at grade level; Roosevelt Bridge ramp connects to 25<sup>th</sup> Street with a half-diamond interchange.*

As in Alternatives 7 and 8, the Potomac Freeway is removed and replaced by city streets and a grade-level plaza. In this alternative, a half-diamond interchange at 25<sup>th</sup> Street and Constitution Avenue replaces the at-grade intersection in Alternatives 7 and 8 to improve turning movements to and from the north and south. The half-diamond interchange permits movements to and from the Roosevelt Bridge, but not to and from Constitution Avenue. Through traffic to Constitution Avenue is removed from the 25<sup>th</sup> Street intersection by use of an underpass. Extensive open space is created to either side of Constitution Avenue, but less than in Alternatives 7 and 8.

**Alternative 10** – *Potomac Freeway eliminated; plaza at grade level; rotary added at 25<sup>th</sup> Street and Constitution Avenue intersection.*

Under this alternative the Potomac Freeway is removed, and a traffic circle is placed at the 25<sup>th</sup> Street intersection with Constitution Avenue and the Roosevelt bridge ramp, permitting movements to and from the Roosevelt Bridge, but not Constitution Avenue. Constitution Avenue is routed under the rotary. The intersection of 25<sup>th</sup> Street and E Street remains at grade.

#### 2.2.7.4 No Action Alternative

All environmental analyses require consideration of the No Action Alternative, in which the status quo is preserved. No improvements would be made in the North, Center, or South Sectors under the No Action Alternative. Figure E-12 in Appendix E illustrates the No Action Alternative.

#### 2.2.7.5 Alternatives Generated after the August 2002 Public Meeting

Following the presentation to the public at the August 7, 2002 public meeting of the alternatives described above in Subchapters 2.2.7.1 through 2.2.7.4, two additional alternatives were generated and analyzed: Alternatives 4V and 4D. Both are variants of Alternative 4, although they arose in different ways. Figures E-13 and E-14 in Appendix E illustrate Alternatives 4V and 4D, respectively.

**Alternative 4V** was developed after the Kennedy Center announced in January 2003 that it had selected an architect for the two buildings to be built on the proposed plaza. Architect Rafael Viñoly's conceptual design includes a plaza that encompasses both the buildings and the Center itself. Viñoly's design for the deck and buildings represented a departure from the plaza and building as envisioned in NCPC's *Extending the Legacy* plan (see Appendix D, Section D1), in the KCAS (Appendix D, Section D2), and in all other alternatives under consideration in this study. Appendix A, Figures 2-2 and 2-3 (Viñoly Architectural Concepts) illustrate Viñoly's approach.

Several facets of Viñoly's conceptual design as presented in November 2002 were modified to develop Alternative 4V. Design features now being constructed as part of the Kennedy Center parking access project have been added, such as a new staircase to New Hampshire Avenue. The circulation patterns on the plaza were altered to conform to the new entrance driveway design under construction. Viñoly's sweeping teardrop-shaped plaza to the north, south, and west sides of the Kennedy Center building was altered as shown in Appendix A, Figure 2-15 (Alternative 4V) because of the preliminary nature of the design and uncertainty about how it would interface with the new north and south terraces now under construction.

Alternative 4V, as interpreted for the KCAI project, includes roadway and pedestrian/bicycle improvements that are variations of the improvements proposed under Alternative 4. Alternative 4V is described in greater detail in Subchapter 2.5.3.

**Alternative 4D** was developed from December 2002 to March 2003. Alternative 4D, a variant of Alternative 4, was developed by DDOT and its consultants to remove the complex of ramps associated with the Potomac Freeway grid without creating heightened levels of congestion. This alternative arose from a desire to achieve the urban design benefits of Alternatives 7-10 without the attendant traffic congestion these alternatives were found to generate. Traffic studies indicated that Alternatives 7-10 could not handle the volumes of traffic now being carried by the freeway system in the study area on city streets and intersections.

Alternative 4D reconstructs the existing infrastructure in all three sectors with a goal of increasing the amount of open space. As in Alternative 4, Alternative 4D builds a plaza and provides a riverfront link from the Kennedy Center. To accommodate the new, elevated plaza, adjustments to the vertical geometry in the Center Sector would be required, the main feature being a new tunnel beneath the Potomac Freeway for westbound E Street Expressway traffic destined for the Roosevelt



Bridge. This is an important variation from Alternative 4, as the addition of a tunnel precludes having to excavate and depress the Potomac Freeway. This new tunnel ramp to the Roosevelt Bridge would have an exit ramp to the Kennedy Center garage entry points on the south and a connection from there to northbound Rock Creek Parkway.

In the North Sector, Alternative 4D would remove the elevated ramps connecting the Whitehurst Freeway with the Potomac Freeway, remove several at-grade ramps, and reconstruct the 27th Street and I Street connection with the Potomac Freeway. In the South Sector, major reconstruction of the existing infrastructure would be required. Two elevated ramps, westbound Constitution Avenue to westbound Roosevelt Bridge and eastbound Roosevelt Bridge to eastbound Constitution Avenue, would be demolished and the roads realigned to allow for more open space. A full description of Alternative 4D may be found in the *Kennedy Center Access Improvements Candidate Alternatives Report* (FHWA, 2003b).

### **2.2.7.6 Deck/Plaza Options**

In addition to Viñoly's plaza design in Alternative 4V, four options for a plaza extending over the Potomac Freeway east of the Kennedy Center were considered for Alternatives 1-10 (Appendix A, Figures 2-4 and 2-5, Deck Alternatives). In Alternatives 1-6, the plaza would be built on a deck extending over a new parking structure for the Kennedy Center and, beyond that, the Potomac Freeway. In Alternatives 7-10, the plaza would be built at grade level. All four deck configurations would work with Alternatives 1-6, but only Deck Alternative 4 (see Appendix A, Figure 2-5) would work with Alternatives 7-10.

The surface road configuration consists of the extension of 25<sup>th</sup> Street south from Juarez Circle and two east-west circulation roads extending eastward from the Kennedy Center drop-off areas. A new E Street, constructed on the surface of the deck, would connect the extended 25<sup>th</sup> Street to 23<sup>rd</sup> Street and to Virginia Avenue beyond.

Two building sites would be created east of the existing Kennedy Center. The north building site (for a Rehearsal and Office Building) is bounded by F Street, 25<sup>th</sup> Street and the new westbound Kennedy Center circulation road. The south building site (for an Education Center) is bounded by the new eastbound Kennedy Center circulation road and the limits of the air-rights deck to the east, south, and west. The size of the south building site varies slightly among the four deck alternatives as a function of the proposed alignments for the Potomac Freeway, the E Street Expressway, and their associated ramp connections.

The primary open space includes the central park and plaza. For illustrative purposes, the KCAI project team proposed three open-space alternatives or schemes: an Amphitheater Scheme, which would be a series of terraces stepping down from 25<sup>th</sup> Street to the frontage road, with a stage centered on the west side of the open space; a Fountain Plaza Scheme, with a memorial fountain centered on the plaza, and a belvedere at the end of the proposed E Street that would take advantage of the difference in elevation between 25<sup>th</sup> Street and the frontage road; and a Parkscape Scheme, which would create a more inwardly-focused, passive, informal space than the Amphitheater and Fountain Plaza Schemes, defined by informal groves of trees framing the edge of the space, with a broad open lawn in the center.

In all alternatives or schemes, pedestrian circulation throughout the area is provided by sidewalks adjacent to streets. A special pedestrian link to the National Mall is proposed along the Potomac Naval Annex retaining wall (see Appendix A, Figure 2-14, Concept for New Pedestrian & Bicycle Trail Between Constitution Avenue and Proposed Plaza). Bicycle circulation is provided on street pavement, with special links to the Mall and Roosevelt Bridge westbound. A pedestrian link from the Kennedy Center River Terrace to the Rock Creek Parkway Trail and the riverfront would also be provided to accommodate patrons arriving by water taxi, bicycle, or on foot. Bicycle parking facilities would be programmed into the east and west bicycle arrival points.

As part of the development of Alternative 4V, a fifth plaza/deck alternative was considered to accommodate the concept proposed for the new Kennedy Center building by architect Rafael Viñoly (see Appendix A, Figures 2-2 and 2-3). As indicated above (Subchapter 2.2.7.5), because of the conceptual nature of the Viñoly design and uncertainty about the compatibility of the proposed concept with current improvements being made at the Center, the KCAI team altered the design to incorporate it into Alternative 4V. The plaza/deck alternative developed for Alternative 4V includes a deck over the Potomac Freeway smaller than that proposed under Deck Alternatives 1-4. It would retain the curved shape of Viñoly's tear-drop design and accommodate the two asymmetrical buildings proposed by the architect. The building sites would be smaller and located farther east from the Kennedy Center than the building sites under Deck Alternatives 1-4.

Under Alternative 4V, 25<sup>th</sup> Street would be retained in its current alignment on the deck's surface. It would enter the plaza between the Kennedy Center and the two new buildings. An internal circulation roadway would run around a new open space that would be curvilinear and centered around a water feature extending up the plaza eastward along E Street to 23<sup>rd</sup> Street, creating a median for the new surface E Street. The internal circulation road would have connections to 25<sup>th</sup> Street, the new surface E Street, drop-off points directly in front of the Kennedy Center, and the existing garages' entry points.

### **2.2.7.7 River Access Options**

A pedestrian link from the Kennedy Center River Terrace to the Potomac River and to the Rock Creek Parkway Trail is proposed to accommodate patrons arriving by water taxi, tour boat, bicycle, or on foot. Bicycle parking facilities would be programmed for the key bicycle arrival points. For the purposes of the KCAI project, the pedestrian link has been assumed to consist of stairs/ramps and elevators. Two alternatives were considered as described below. Either would work with any of the KCAI alternatives.

#### **Alternative S1, Bowed Stairs**

The Kennedy Center River Terrace cantilevers over the northbound lanes of the Rock Creek Parkway; this concept is illustrated in Appendix A, Figure 2-6 (Alternative Stairs). Alternative S1 proposes two small terraces that would extend over the southbound lanes of the parkway to a platform for elevator and stair/ramp access to the Rock Creek Parkway Trail below. The two proposed terrace extensions would be centered on the two River Terrace fountains and entrances to the Hall of Nations and Hall of States.

The Potomac River Promenade/Rock Creek Parkway Trail would bow out slightly on a pier-supported wharf structure extending out over the Potomac River from the existing stone bulkhead. Elevators from the River Terrace extensions would connect to the promenade below. An alternative upper promenade could potentially run adjacent to the southbound lanes of the Rock Creek Parkway if desired. Stairs from the River Terrace extensions would connect to the new lower promenade running adjacent to the river. The stairs would bow slightly out to the water along a gracious curve that would parallel the curve of the proposed pier structure edge. Bowing the stairs away from the parkway and toward the river would make the stairs to the river less of a visual obstruction to motorists traveling along the parkway.

From the promenade along the edge of the pier structure would be a landing and ramp system leading to a floating dock, providing the opportunity for patrons to arrive at the Kennedy Center via water taxi or tour boats.

### **Alternative S2, Monumental Stairs**

To provide a connection to the Rock Creek Parkway Trail, Alternative S2 proposes three terraces that would extend over the southbound lanes of the Rock Creek Parkway to a platform for elevator and stair/ramp access to the promenade below; this concept is illustrated in Appendix A, Figure 2-6. The main feature would be a large terrace, centrally located between the two River Terrace fountains and the entrances to the Hall of Nations and Hall of States.

A grand staircase would extend from the central terrace over the parkway and down to the Rock Creek Parkway Trail. Two narrow terraces leading to elevators providing access to the parkway and trail would flank the central terrace and staircase. As under Alternative S1, an option could include an upper promenade running adjacent to the southbound lanes of the parkway, if desired. To accommodate the grand staircase, the Rock Creek Parkway Trail would have a pier-supported structure, approximately 25 feet wide and 300 feet long, extending out over the Potomac River from the existing stone bulkhead.

As with Alternative S1, a platform and ramp system leading to a floating dock extending from the Rock Creek Parkway Trail would provide the opportunity for patrons to arrive at the Kennedy Center via water taxi or tour boat.

---

## **2.3 Evaluation of Alternatives**

Alternatives determined to be unreasonable or not prudent were eliminated in Level I screening performed in the KCAS (FHWA 2000). The KCAI project team refined the remaining alternatives and subjected them to more detailed evaluation in a Level II screening. Level II screening assessed the performance of the short-listed alternatives against evaluation criteria, which were based on project objectives, agency inputs and policy guidance, and adopted plans for the study area.

Level II screening criteria were intended as a means to evaluate the alternatives and to determine which ones should be further detailed and evaluated. Each criterion had a measure attached to it, either qualitative or quantitative. Each alternative was evaluated against that measure in accordance with the following scale: no change, poor (conditions made worse), fair (minor improvement), good

(moderate improvement), and excellent (major improvement). The Level II screening criteria fell into the following focus areas:

- Urban Design Evaluation Factors
- Accessibility Evaluation Factors
- New Facilities Evaluation Factors
- Environmental Evaluation Factors
- Aesthetics Evaluation Factors
- Neighborhood Impacts
- Compatibility With Other Plans
- Safety Evaluation Factors
- Flexibility
- Construction Impacts
- Traffic Issues

---

## 2.4 Alternatives Dismissed from Further Consideration

The following discussion is a brief summary of the information presented in the *Kennedy Center Access Improvements Candidate Alternatives Report* (2003b), which documents fully the alternative evaluation and elimination process.

---

### 2.4.1 Evaluation of Group I Alternatives

#### 2.4.1.1 Alternatives 1, 2, 3, 4, 4A, and 4V

In general, Alternatives 1 through 4, 4A, and 4V would improve travel times to the Kennedy Center, reduce cross-site travel delays, and minimize changes to the existing infrastructure. Traffic modeling and analysis of these alternatives showed that all improved accessibility to the Kennedy Center. Congestion on the north and/or south approaches was relieved, particularly under Alternatives 4 and 4V, where improvements would be made in both the North and South Sectors. Alternatives 1, 2, 3 and 4A were less effective in relieving congestion because each included only some of the improvements included in Alternatives 4 and 4V.

All alternatives enhanced pedestrian access, with Alternatives 4 and 4V providing superior access from all directions. Except for Alternative 4A, all alternatives provided particularly enhanced pedestrian access to the west and east because of the deck and link to the riverfront.

In the North Sector, Alternatives 2, 4, 4A and 4V reduced conflicts at the Rock Creek Parkway, Virginia Avenue, and 27th Street intersection. In the South Sector, Alternatives 3, 4, 4A and 4V reduced conflicts at the Potomac Freeway and Ohio Drive intersection, a high traffic location with a high accident rate. Under all alternatives, but particularly under 4 and 4V, pedestrian and vehicular conflicts were reduced because of the enhanced access provided.

With the exception of Alternative 3, which has no improvements in the North Sector, the remainder of the group has the potential to affect archaeological sites of national importance and nearby unexplored areas present in the North Sector. Alternative 4, which includes a new overpass structure in the South Sector, might have viewshed impacts on West Potomac Park and the Lincoln Memorial. Alternative 4V would avoid these viewshed impacts because it features a signal-controlled intersection instead of a grade-separated intersection.

As a group, Alternatives 1 through 4, 4A, and 4V provide the greatest flexibility in terms of construction phasing and cost, requiring the least initial capital outlay among all alternatives evaluated. However, because of the lowering of the Potomac Freeway and E Street Expressway, major excavation would be required.

With the exception of Alternative 4A, Group I alternatives would be compatible, to varying degrees, with existing planning documents, and all would satisfy the needs of the Kennedy Center's planned expansion program by optimizing plaza space and the size of new building footprints. With the exception of Alternative 4A, all would provide space for new parking beneath the deck, with direct egress to the Roosevelt Bridge.

#### **2.4.1.2 Alternative 4D**

Screening showed that Alternative 4D performed similar to or better than the other Group I alternatives based on urban design factors, new facilities factors, environmental factors, aesthetic factors, and compatibility with other plans. However, Alternative 4D failed on screening criteria relating to vehicular accessibility and constructability.

Traffic modeling and analysis indicated that Alternative 4D would increase, rather than decrease, congestion in the study area. Operationally, Alternative 4D would introduce new traffic conflict points (thereby decreasing safety), reduce roadway capacity, and omit important transportation system connections. In the North Sector, Alternative 4D would increase traffic on neighborhood streets. From the standpoint of constructability, Alternative 4D presented a design that would necessitate the relocation of a large existing sewage pumping station at high cost.

#### **2.4.1.3 Conclusions**

- All Group I Alternatives, with the exception of Alternative 4D, are feasible and improve access to the Kennedy Center.
- Alternative 4D failed both for engineering reasons and for its inability to meet the basic purpose of the project – to improve access to the Kennedy Center. Consequently, Alternative 4D was eliminated from further consideration.
- Alternatives 1, 2, 3 and 4A were also eliminated from further consideration based on their weaker performance in improving access to the Kennedy Center relative to Alternatives 4 and 4V, which include improvements in all three sectors. Moreover, Alternatives 1, 2, 3, and 4A offered no advantages over Alternatives 4 and 4V.
- Alternatives 4 and 4V were selected for further analysis in this EA because they offer the best opportunity to achieve the overall objectives of the project among this group of alternatives.

## 2.4.2 Evaluation of Group II Alternatives (5 and 6)

Alternatives 5 and 6 degraded travel times to the Kennedy Center, increased cross-site travel delays, required major changes to the existing infrastructure, and required takings of private property. Traffic studies indicated that accessibility to the Kennedy Center degraded under both alternatives. Traffic on Rock Creek Parkway between Virginia Avenue and Lincoln Circle was greatly reduced.

Alternatives 5 and 6 proved problematic because of difficulties the study team faced in designing an intersection for Rock Creek Parkway/Virginia Avenue/27<sup>th</sup> Street/Potomac Freeway that would allow diversion of the parkway traffic to the freeway. Elimination of the existing Whitehurst Freeway ramps resulted in major delays and increased congestion. Rebuilding the interchange, while potentially restoring service through the area, only resulted in greater impacts to lands south of the Whitehurst Freeway/K Street corridor.

Both alternatives enhanced pedestrian access, and, owing to the reduction of traffic on the parkway noted above, were superior to Alternatives 4 and 4V. Conflict points for pedestrians were reduced in all sectors, and driver continuity was improved, with fewer decision points required.

Both Alternatives 5 and 6 have the potential to affect archaeological sites of national importance and nearby unexplored areas in the North Sector. The new intersection in the North Sector would have a major impact on the parkway, requiring realignment and a moderate loss of parkland. Another major impact on parkland resulting from the realignment of the parkway in the North Sector would require drivers wishing to follow the historic parkway to make a right turn for southbound traffic (and a left turn for northbound traffic) at a new intersection in order to continue their journey. For this reason, NPS objected strongly to both alternatives.

Alternatives 5 and 6 provide some flexibility in terms of construction phasing. However, the improvements in the North and South sectors would have to be made in tandem. As with the Group I alternatives, the lowering of the Potomac Freeway and E Street Expressway would require major excavation.

Group II alternatives would be compatible, to varying degrees, with existing planning documents and satisfy the needs of the Kennedy Center's planned expansion program by optimizing plaza space and the size of new building footprints. Both would provide new parking beneath the deck, with direct egress to the Roosevelt Bridge.

## Conclusions

Alternatives 5 and 6 were not recommended for further study because:

- They did not meet the purpose and need for the study; as they actually degraded travel times to access the Kennedy Center.
- NPS opposed them because they would have required realigning part of Rock Creek Parkway and taking considerably more parkland than required by the Group I alternatives.
- An effective engineering solution to divert parkway traffic onto the Potomac Freeway proved difficult to design.

### 2.4.3 Evaluation of Group III Alternatives (7-10)

Group III alternatives would eliminate limited-access sections of the Potomac Freeway, E Street Expressway, and the Roosevelt Bridge ramps and replace them with traditional city streets and street intersections. As proposed under Alternatives 7 through 10, removal of the Potomac Freeway would result in a major breakdown of traffic and travel delays throughout the study area. Major facilities affected by these delays would include:

- Roosevelt Bridge and Memorial Bridge, with rush-hour backups occurring as far as the Virginia approaches.
- Intersection of 25<sup>th</sup> Street and Constitution Avenue, which, during rush hours, would approach gridlock conditions.
- Intersection of Juarez Circle, 25th Street, and Virginia Avenue, which would have to accommodate major increases in traffic volumes.
- Twenty-fifth Street and E Street, which also would have to accommodate major increases in volumes of traffic.

Traffic would increase in the Foggy Bottom neighborhood as drivers would look for opportunities to shorten their trip. The increase in travel time and travel delays would have an adverse impact on air quality and cause major costs through lost productivity.

As a result of the increased congestion and travel delays, there would be an increase in vehicular conflicts, and the safety of pedestrians would be compromised by the increased number of conflict points and greater crossing distances required for the proposed arterials. Twenty-fifth Street would become a major north-south road that would require twelve lanes for travel and some taking of property in front of the Saudi Arabian Embassy. Juarez Circle would have to be substantially altered to accommodate the new traditional interchange required to meet traffic demands.

As with the previous groups, all Group III alternatives have the potential to affect known and nearby uninvestigated archaeologically sensitive areas in the North Sector. In both the North and South Sectors, re-creation of the street grid would create large swaths of parkland that would be available for memorials or monuments. Some parkland would also be taken in order to build new streets. Although the diversion of traffic from Rock Creek Parkway to 25<sup>th</sup> Street would enhance the parkway's setting along the Potomac River, the elimination of Ohio Drive in the south would eliminate the historic connection of the parkway with the Mall. Re-creation of the historic street grid would restore some streets that were part of the L'Enfant Plan, but Foggy Bottom residents strongly opposed these alternatives for just this reason – they did not want through traffic diverted from the freeways onto their neighborhood streets.

Of all the alternatives, those in Group III would be the most complex to phase for construction. The primary reason for this would be the lack of suitable alternate routes for travelers to use while crossing the study area. Because it is unlikely that these alternatives could be phased over any considerable timeframe, they would require the greatest initial capital outlay. Eliminating the freeway would have far-reaching effects, and the Group III alternatives are those most likely to have major socioeconomic impacts.

Although the Group III alternatives are the most compatible with the urban design visions expressed by NCPC, CFA, and NPS, and have the potential to maximize space for new garage parking (as the freeway would be eliminated), they would impose the greatest constraints on satisfying the needs of the Kennedy Center's planned expansion program because they would minimize plaza space and restrict the size of the new building footprints.

## Conclusions

None of the Group III Alternatives were recommended for further study because:

- They did not meet the purpose and need for the study: Not only would they *not* improve access to the Kennedy Center, they would cause major breakdown of traffic and travel delays throughout the study area. The study team found that the Group III alternatives posed safety concerns, reduced connectivity for traffic moving through the study area, introduced new potential conflict points in the roadway system, and introduced intersection conditions that would result in extremely poor levels of service.
  - They were strongly opposed by Foggy Bottom residents who did not want freeway traffic rerouted onto their neighborhood streets.
- 

## 2.5 Alternatives Considered Further

Three alternatives emerged from the alternatives evaluation process and are being considered further in this EA: the No Action Alternative, Alternative 4, and Alternative 4V. These alternatives are described below. A preferred alternative has not yet been selected. FHWA will select a preferred alternative following public and agency review of the EA. The final alternative may include elements of any of the three alternatives under study. Some elements of the two action alternatives are interdependent, but other elements, such as deck design and pedestrian access, are independent, and may be independently selected for the preferred alternative.

---

### 2.5.1 No Action Alternative

Under the No Action Alternative, current conditions in the study area would continue. While improvements to the Kennedy Center environs and parking garages now under construction would be completed, no other design or traffic operations improvements to facilitate pedestrian, bicycle, and motorized vehicular access to the Center would occur. While this alternative does not meet project goals and objectives, it is assessed in this EA in accordance with CEQ regulations to provide a baseline for comparison with the impacts of the two proposed action alternatives. Appendix A, Figure 2-7 (No Action Alternative) illustrates the no action condition in the study area.



## 2.5.2 Alternative 4

Alternative 4 combines roadway and traffic system improvements, bicycle and pedestrian improvements, and urban design improvements to address the Kennedy Center's access problems. Key improvements are described below, grouped by the sectors shown in Appendix A, Figure 1-3. Appendix A, Figure 2-8 (Alternative 4) illustrates the study area following construction of improvements under Alternative 4. Detailed drawings of the proposed roadway improvements may be seen in Appendix A, Figures 2-9 (Alternative 4 Proposed North Sector Road Improvements), 2-10 (Alternative 4 Proposed Center Sector Upper Roads Improvements), 2-11 (Alternative 4 Proposed Center Sector Lower Roads Improvements), and 2-12 (Alternative 4 Proposed South Sector Roads Improvements). Appendix A, Figure 2-13 (Alternative 4 Proposed Pedestrian/Bicycle Network Improvements) illustrates proposed pedestrian/bicycle trails, road crossings, and sidewalks.

### North Sector

- **Create a direct connection between Rock Creek Parkway and the Potomac Freeway** by providing two signalized intersections north of Virginia Avenue and two new ramps connecting the two roads. The new ramps would connect Rock Creek Parkway to southbound Potomac Freeway through 27<sup>th</sup> Street and northbound Potomac Freeway directly to northbound Rock Creek Parkway.
- **Build the section of the proposed pedestrian/bicycle trail connecting the Georgetown waterfront with the Rock Creek Parkway Trail** from the bridge over Rock Creek to the Rock Creek Parkway Trail.
- **Improve intersection pedestrian safety** at Virginia Avenue/Rock Creek Parkway and at Juarez Circle.
- **Reconstruct 27<sup>th</sup> Street** from K Street to Virginia Avenue, including new sidewalks.

### Center Sector

- **Build a large elevated plaza on a deck over the Potomac Freeway.** The seven-acre plaza would create space for construction of two new buildings planned by the Kennedy Center (the Education Center and the Rehearsal and Office Building) and provide about two acres of new open space.
- **Re-connect the Kennedy Center to the street grid** on the north and east via a realigned 25<sup>th</sup> Street on the plaza and an extension of E Street at grade level to the eastern edge of the plaza.
- **Eliminate the ramp from the eastbound E Street Expressway to Virginia Avenue** along the northern edge of the State Department and add a lane to the E Street Expressway to accommodate the traffic that now uses this ramp.
- **Build sidewalks** along the new grade level E Street, on the proposed deck, and north along 25<sup>th</sup> Street to Juarez Circle.
- **Add a new pedestrian signal for crossing Rock Creek Parkway** at the south end of the Kennedy Center. Improve the existing signalized pedestrian crossing at the north end of the Kennedy Center.

- **Build a new garage under the plaza adjacent to the existing Kennedy Center garage** to increase capacity for peak performance times.
- **Connect the Kennedy Center to the Potomac River.** For the purposes of this EA, the connection would be through the monumental stairs described in Subchapter 2.2.7.7 (Alternative S2), which would link the Kennedy Center River Terrace to the Rock Creek Parkway Trail, allowing pedestrian movements directly from the building to the river and vice versa. Rather than representing a final design, the monumental stairs are being used as a stand-in to determine likely viewshed and aesthetic impacts until the exact nature and design of the link is determined in coordination with NCPC, NPS, and CFA. Construction of a wharf extending about 25 feet over the river on piers would be required to accommodate the stairs, the existing trail, and a new dock.
- **Provide a floating dock in the Potomac River** for boat or water taxi passengers to access the Center.

## South Sector

- **Replace the stop-controlled intersection of Ohio Drive and the Potomac Freeway with a grade-separated intersection.** A bridge would carry the freeway over Ohio Drive, allowing free flow of traffic.
- **Modify the ramp linking eastbound Roosevelt Bridge to southbound Ohio Drive and northbound Rock Creek Parkway via the Potomac Freeway** by moving the buttonhook west of its current position and building a dedicated lane to allow traffic to enter the parkway without having to merge.
- **Build two new pedestrian/bicycle trails:** one trail would connect the southwestern edge of the proposed plaza with the National Mall; the other trail would connect the Roosevelt Bridge walkway with the Rock Creek Parkway Trail and the National Mall, passing over the Potomac Freeway on structure. An unsignalized pedestrian crossing would be added where the latter trail connects with the Rock Creek Parkway Trail.

Alternative 4 is described in more detail below.

### 2.5.2.1 Roadway Improvements

Alternative 4 would generally maintain established traffic patterns, with improvements to the existing infrastructure that are designed to reduce congestion and improve safety on key approaches to the Kennedy Center. Alternative 4 would connect the Kennedy Center to the riverfront and adjacent pedestrian/bicycle trail west of the Kennedy Center via monumental stairs over Rock Creek Parkway and create pedestrian and bicycle connections from all directions to the Kennedy Center.

## North Sector

In the North Sector, Alternative 4 would create a direct connection between the Rock Creek Parkway and the Potomac Freeway by providing two new signalized intersections north of Virginia Avenue. This would require the construction of two new ramps. The first new ramp would branch off the parkway north of the existing elevated ramp linking eastbound Whitehurst Freeway to southbound Potomac Freeway. Controlled by a signal, it would cross 27<sup>th</sup> Street and connect the

parkway to southbound Potomac Freeway. Additional connections and improvements would be made at 27<sup>th</sup> Street for northbound Potomac Freeway traffic connecting to K Street via 27<sup>th</sup> Street. The existing access to southbound Potomac Freeway from 27<sup>th</sup> Street via I Street would be eliminated.

The other new ramp would connect northbound Potomac Freeway to northbound Rock Creek Parkway. It would be built east of 27<sup>th</sup> Street and extend beneath and north of K Street before connecting to Rock Creek Parkway along an existing ramp on the north side of the 27<sup>th</sup> Street/K Street intersection. This existing ramp, which connects westbound K Street to the northbound parkway, is little used, and the connection would be eliminated. A traffic signal would control traffic operations at the connection of the ramp with the parkway.

## **Center Sector**

The primary improvement in the Center Sector would be the construction of a large plaza on a deck over the Potomac Freeway that would connect the Kennedy Center to the street grid on the north and east. Existing 25<sup>th</sup> Street would be realigned to a true north-south orientation and connected with an extended E Street built on the plaza extension to 23<sup>rd</sup> Street and beyond. Space for the future construction of two new buildings would be created to the north and south of the plaza and an internal circulation roadway would be built around a new open space directly in front of the Kennedy Center. Connections would be made to 25<sup>th</sup> Street, to the new surface E Street, to drop-off points directly in front of the Center, and to the entry points for the existing garages.

To accommodate the new, elevated plaza, adjustments to the vertical geometry in the Center Sector would be required. The principal adjustments would be the following: The southbound Potomac Freeway ramp to eastbound E Street Expressway would be eliminated, and a considerable length of the Potomac Freeway (approximately the section between Juarez Circle and the Roosevelt Bridge interchange) would be lowered by approximately 20 feet. Reconstruction of the westbound E Street Expressway ramp to Roosevelt Bridge would also be required. As part of this reconstruction, access from the ramp to southbound Potomac Freeway would be eliminated.

Additionally, the ramp currently linking eastbound E Street Expressway to Virginia Avenue along the northern edge of the State Department would be removed. To accommodate the traffic that now uses this ramp, a new lane would be added to the E Street Expressway east of the ramp.

A new garage would be constructed under the plaza adjacent to the existing Kennedy Center garage. Access from this garage to westbound Roosevelt Bridge would be provided via a ramp that would merge with the reconstructed westbound E Street Expressway ramp.

## **South Sector**

In the South Sector, a grade-separated bridge would replace the at-grade intersection of Ohio Drive and the Potomac Freeway, currently a stop condition. Southbound Potomac Freeway to southbound Ohio Drive would pass over the stretch of roadway linking Ohio Drive to the Rock Creek Parkway. To limit the height of the proposed bridge, Ohio Drive would be lowered.

The existing ramp linking eastbound Roosevelt Bridge to northbound Rock Creek Parkway and southbound Ohio Drive via the Potomac Freeway would be modified so that traffic destined for the parkway could turn before reaching the freeway. This would be accomplished by moving the button-hook linking the ramp to the parkway a short distance to the west of its current position. A dedicated lane would be built, allowing traffic to enter the parkway without having to merge.

### **2.5.2 2 Traffic Operations**

#### **North Sector**

Under Alternative 4, traffic flow north of the Kennedy Center would be improved by the proposed new, more direct connection between Rock Creek Parkway and Potomac Freeway. The new connection would divert southbound Rock Creek Parkway traffic away from the existing complex intersection of Virginia Avenue, 27<sup>th</sup> Street, and I Street.

Southbound parkway traffic seeking to access the Potomac Freeway and Roosevelt Bridge would turn left at the new intersection just north of the Whitehurst Freeway overpass. Once on the Potomac Freeway, traffic could exit to the bridge or continue on to the new overpass structure proposed in the South Sector toward Independence Avenue.

Northbound traffic from the Potomac Freeway to northbound Rock Creek Parkway would no longer use southbound 27<sup>th</sup> Street. Instead, this traffic would use the direct connection created by the new ramp that would be built east of 27<sup>th</sup> Street and beneath K Street.

#### **Center Sector**

In the Center Sector, access to the Kennedy Center would be provided by the new surface E Street connection to 23<sup>rd</sup> Street and the plaza circulation road connection to the extended and realigned 25<sup>th</sup> Street.

Because the existing southbound Potomac Freeway to eastbound E Street Expressway ramp would be eliminated, eastbound traffic presently using this connection would be diverted to parallel access roads, most likely K Street and Virginia Avenue.

Because the existing exit ramp from eastbound E Street Expressway to Virginia Avenue would be removed, traffic presently using this ramp would continue on the expressway to 20<sup>th</sup> Street, where it would turn right to access the avenue. To accommodate this new movement, 20<sup>th</sup> Street – currently a one-way northbound street – would be made two-way between E Street and Virginia Avenue.

#### **South Sector**

In the South Sector, the proposed grade separation would improve traffic operations at the Potomac Freeway/Ohio Drive intersection. Southbound Potomac Freeway traffic, including southbound traffic exiting from Roosevelt Bridge, would pass over northbound Ohio Drive, thus reducing vehicular conflicts in this sector and substantially improving safety.

Eastbound traffic from the Roosevelt Bridge destined for northbound Rock Creek Parkway would benefit from the improved ramp with a dedicated lane onto Ohio Drive toward the parkway.

### **2.5.2.3 Bicycle and Pedestrian Access**

Under Alternative 4, pedestrian and bicycle access would be improved with new trails, pedestrian structures, accessibility facilities, and crosswalks (Appendix A, Figure 2-13). These improvements would provide access from the north, east, south, and the Potomac River on the west.

#### **North Sector**

In the north, much of the existing sidewalk network would continue to be utilized and the system would be extended to the new plaza. This would be accomplished by continuing an existing sidewalk on the eastern side of 25<sup>th</sup> Street from Juarez Circle up onto the proposed plaza. Pedestrian movements along 27<sup>th</sup> Street, between K Street and Virginia Avenue, would be improved by the construction of new sidewalks on both sides of the street, with pedestrian crossings at each intersection.

Access to the Center from Georgetown along the waterfront would be improved by a new trail and bridge over Rock Creek connecting the Georgetown waterfront and the Rock Creek Parkway Trail in the vicinity of Thompson's Boathouse. From Virginia Avenue, pedestrians or bicyclists could either continue on the trail or cross over to Virginia Avenue and points beyond. A benefit of creating direct traffic connections between the Rock Creek Parkway and the Potomac Freeway would be to reduce congestion at the intersection of the parkway with Virginia Avenue, making it safer for pedestrians and cyclists.

#### **Center Sector**

Pedestrians and bicyclists using the Rock Creek Parkway Trail would have the option to access the Kennedy Center from the west via the proposed monumental stairs to the River Terrace. This new link would provide these pedestrians and bicyclists with a quicker and safer access route to the Center. Bicycle parking facilities would be provided in the vicinity of the stairs.

Access to the Center from the east would be greatly enhanced by the addition of the plaza. Trails and sidewalks would be built along both sides of E Street as a component of the new, primary approach to the Kennedy Center and its re-established connection with the city. A new pedestrian connection would be created from the southeast corner of the plaza to 23<sup>rd</sup> Street, along the Potomac Naval Annex property.

The plaza would also be connected to the South Sector via new pedestrian/bicycle facilities, as described below.

#### **South Sector**

In the south sector, expansion of the trail network would improve access to the Kennedy Center from the Roosevelt Bridge and create links to the Mall.

An existing pedestrian and bicycle route on the northern side of the Roosevelt Bridge would be improved and connected directly to the new plaza and points beyond. The existing pedestrian walkway along the southern side of the Roosevelt Bridge would connect to a new pedestrian and bicycle facility about midway between the bridge landing and the new ramp to the Rock Creek Parkway. The proposed trail would loop back toward the Belvedere along Ohio Drive, and then cross over to the westbound ramp from the Roosevelt Bridge to Constitution Avenue. It would then proceed parallel to the ramp and would be carried over the Potomac Freeway by a new elevated structure attached to the bridge carrying the ramp. The new trail would end at the southwest corner of the intersection of Constitution Avenue and 23<sup>rd</sup> Street. In contrast to the existing pedestrian walkway (to be removed) between the same two points, which crosses several ramps and roadways, the new path would be free of conflict points with vehicles. An existing trail that crosses the Potomac Freeway at grade would be demolished.

A second new combined pedestrian/bicycle facility would be built in the South Sector, linking the intersection of Constitution Avenue and 23<sup>rd</sup> Street to the proposed plaza and points beyond. The proposed trail would start from the northwest corner of the intersection, near the site of the proposed new US Institute of Peace, and run parallel to the ramp connecting Constitution Avenue to Roosevelt Bridge westbound, from which it would diverge just past the Potomac Naval Annex to enter the proposed plaza. This new route would greatly facilitate pedestrian and bicycle access to the Kennedy Center from the western end of the National Mall. A concept for this new trail is shown in Appendix A, Figure 2-14.

#### **2.5.2.4 Transit Operations**

Transit programs and systems that serve the study area and the Kennedy Center would remain in operation under Alternative 4. Transit operations currently include:

- Washington Metropolitan Area Transit Authority (WMATA) Metrorail service to the Foggy Bottom Metrorail Station.
- WMATA Metrobus lines that serve the Foggy Bottom Metrorail Station or the Kennedy Center directly.
- Kennedy Center Show Shuttle to and from the Foggy Bottom Metrorail Station and to and from the Columbia Plaza parking garage (during overflow conditions).
- Tourmobiles, a contract service under the National Park Service's purview that circulates among the monuments and memorials.
- Tour buses and school buses.

Alternative 4 would accommodate a potential light rail transit service intended to connect New Hampshire Avenue with the Roosevelt Bridge. In the vicinity of the Kennedy Center, this line could either: 1) approach the Kennedy Center on New Hampshire Avenue, then run beneath the proposed plaza (see the next subchapter) with a station/stop near the entrance to the Center, or 2) run at grade along 25<sup>th</sup> Street across the surface of the plaza, with a station/stop several hundred feet from the Center entrance. As presently conceived, the line would continue west across the Roosevelt Bridge to Virginia.

### 2.5.2.5 Urban Design Features

**Deck.** Deck design D4 (illustrated in Appendix A, Figure 2-5 and described in Subchapter 2.2.7.6) was selected for incorporation into this alternative, with some design refinements. The two proposed Kennedy Center buildings could be accommodated on the deck, as could a garage under the deck. Construction of the deck (including the portion over the E Street Expressway) would create approximately eleven acres of new space. The landscaped plaza to be built between the proposed buildings would cover about 2.5 acres and the open space between 25<sup>th</sup> and 23<sup>rd</sup> Street about 1.5 acres (Subchapter 2.2.7.5 discusses landscaping options considered by the KCAI team, but other landscaping schemes could be incorporated into the final design). The buildings would cover approximately two acres each, and three acres would be used for roadways and sidewalks.

**Link to the Riverfront.** Alternative S2, Monumental Stairs (illustrated in Appendix A, Figure 2-6 and described in Subchapter 2.2.7.7) was selected to illustrate the proposed connection from the Kennedy Center River Terrace to the Rock Creek Parkway Riverfront Trail. Elevators would also be built to provide access for the handicapped. To minimize conflicts among stair users, trail users, and dock users, a wharf on piers would be extended out into the river in a rectangular shape measuring roughly 25 feet wide by 300 feet long. As with the stairs, the wharf is a concept, and a design has not been developed and selected.

---

## 2.5.3 Alternative 4V

### 2.5.3.1 Features distinguishing Alternative 4V from Alternative 4

Alternative 4V is illustrated in Appendix A, Figures 2-15 (Alternative 4V), 2-16 (Alternative 4V Proposed North Sector Road Improvements), 2-17 (Alternative 4V Proposed Center Sector Road Improvements), 2-18 (Alternative 4V Proposed South Sector Road Improvements), and 2-19 (Alternative 4V Proposed Pedestrian/Bicycle Network Improvements).

While similar in many respects to Alternative 4, Alternative 4V has several different features:

- **Plaza and New Buildings.** As shown in Appendix A, Figure 2-15, the proposed plaza and buildings have different footprints than those under Alternative 4. They are designed to reflect the concepts developed by architect Rafael Viñoly. In January 2003, the Kennedy Center selected Viñoly to design the Center's elements of the plaza project. Viñoly's design for the plaza encompassed the Kennedy Center building within a tear-drop-shaped space with a deck sweeping out over the Rock Creek Parkway and the Potomac River (see Appendix A, Figures 2-2 and 2-3). However, for three reasons – (1) the design is conceptual and preliminary, and may change as the design process proceeds, 2) the Kennedy Center's current construction project (see Appendix D, Section D5) is building terraces over the northern and southern extensions of the parking garage, and 3) it is not clear how Viñoly's deck concept would mesh with the new terraces – the portions of Viñoly's deck to the north, west and south have not been incorporated into Alternative 4V for this project. But the eastern side of Viñoly's deck, albeit with some modifications, has been incorporated into the alternative, along with the proposed buildings' distinctive footprints and locations. Thus, Alternative 4V does not

reflect the Viñoly concept in its entirety, but combines certain elements of it with separate transportation elements, some from Alternative 4, and others that are new.

- **Traffic Signal at Ohio Drive/Potomac Freeway Intersection.** Instead of the bridge proposed under Alternative 4 to replace the existing stop-controlled intersection, a traffic signal would be installed, which would require realigning the roadways leading into the intersection.
- **E Street Expressway Ramp to Virginia Avenue.** Under Alternative 4, this ramp would be removed. Under Alternative 4V, it would remain in place and function as at present.
- **Direct Connection of Potomac Freeway to Rock Creek Parkway.** As under Alternative 4, a new, direct connection would be made, but it would be configured differently, as described in the following subchapter.
- **Link to the Riverfront.** As under Alternative 4, a link would be created between the Kennedy Center's River Terrace and the Rock Creek Riverfront Trail. Under Alternative 4V, the link is assumed to be bowed stairs (described in Subchapter 2.2.7.7, Alternative S1, and illustrated in Appendix A, Figure 2-6). Rather than representing a final design, the bowed stairs are being used as a stand-in to determine likely viewshed and aesthetic impacts until the exact nature and design of the link is determined, in coordination with NCPC, NPS, and CFA. For the purposes of this EA, the bowed stairs may, due to their shape, stand in for the ramps proposed in the Viñoly concept, should the ramps be built. As under Alternative 4, a wharf extending into the river about 25 feet would be built to accommodate the traffic generated by the stairs, the trail and the dock, but the wharf would be curved rather than rectangular.

### 2.5.3.2 Roadway Improvements

Alternative 4V would generally maintain established traffic patterns with improvements to the existing infrastructure designed to reduce congestion and improve safety on key approaches to the Kennedy Center. Alternative 4V would connect the Center to the riverfront and the adjacent bike and pedestrian trail west of the Center via stairs over Rock Creek Parkway, and create pedestrian and bicycle connections from all directions to the Center.

#### North Sector

In the North Sector, Alternative 4V would create a direct connection between the Rock Creek Parkway and the Potomac Freeway by providing a new signalized intersection north of K Street/Whitehurst Freeway overpass. This would require the construction of a new ramp that would connect to the Potomac Freeway along an existing ramp before splitting into two parallel roadways just south of K Street. The connection of the new ramp with the parkway would be controlled by a signal. The existing ramp is little used and its connection to the 27<sup>th</sup> Street/K Street intersection would be eliminated. The existing connection between 27<sup>th</sup> Street and southbound Potomac Freeway via I Street would also be eliminated.

After splitting, the two new roadways would be approximately parallel to each other, with the easternmost roadway connecting with the Potomac Freeway's northbound lanes, and the westernmost roadway connecting with the freeway's southbound lanes.



For the southbound connection to the Potomac Freeway, an underpass beneath the northbound connection to 27<sup>th</sup> Street would be required. Additional connections and general improvements would be made at 27<sup>th</sup> Street for northbound freeway traffic connecting to K Street via 27<sup>th</sup> Street and for southbound 27<sup>th</sup> Street traffic entering the freeway.

## **Center Sector**

The primary improvement in the Center Sector would be the construction of a plaza on a deck over the Potomac Freeway that would connect the Kennedy Center to the street grid to the north and east. Alternative 4V would provide for a different deck and plaza configuration from what is proposed under the other alternatives described in this report, because it reflects the concept proposed by architect Rafael Viñoly for the space east of the Kennedy Center (see Subchapter 2.5.3.1). Viñoly's concept provides less space for future building construction than does Alternative 4. The future buildings would be smaller and located farther east than would be the case under Alternative 4.

Twenty-fifth Street would extend to link the plaza to the street grid to the north. Under Alternative 4V, as under Viñoly's concept, 25<sup>th</sup> Street would remain close to its existing alignment. It would enter the plaza between the Kennedy Center and the two new buildings.

An internal circulation roadway would be built around a new open space that would be curvilinear and centered around a water feature that would extend up the plaza eastward along E Street to 23<sup>rd</sup> Street, creating a median for the E Street surface road; this feature is from the Viñoly concept. The internal circulation road would have connections to 25<sup>th</sup> Street, the new surface E Street, drop-off points directly in front of the Kennedy Center, and the existing garages' entry points.

As under Alternative 4, in order to accommodate the new elevated plaza, adjustments to the vertical geometry in the Center Sector would be required (see Appendix A, Figure 2-11). Primarily, the southbound Potomac Freeway ramp to eastbound E Street Expressway would be eliminated, and a considerable length of the freeway (approximately the section between Juarez Circle and the Roosevelt Bridge interchange) would be lowered by approximately 20 feet. Reconstruction of the westbound E Street Expressway ramp to Roosevelt Bridge would also be required. As part of this reconstruction, access from the reconstructed ramp to the southbound freeway would be eliminated.

A new garage would be constructed under the plaza adjacent to the existing Kennedy Center garage. Access from this garage to westbound Roosevelt Bridge would be provided via a ramp that would merge with the reconstructed westbound E Street Expressway ramp.

## **South Sector**

In the South Sector, the at-grade intersection at Ohio Drive and the Potomac Freeway, currently a stop condition, would be realigned and replaced by an at-grade signalized intersection. The new signal would control southbound Potomac Freeway to southbound Ohio Drive traffic. Northbound Ohio Drive traffic would need to make a left turn to continue to northbound Rock Creek Parkway along the Potomac River.

As under Alternative 4, the existing ramp linking eastbound Roosevelt Bridge to northbound Rock Creek Parkway and southbound Ohio Drive via the Potomac Freeway would be modified so that parkway-bound traffic could turn before reaching the freeway. This would be accomplished by moving the button-hook linking the ramp to the parkway a short distance to the west of its current position. A dedicated lane would be built, allowing traffic to enter the parkway without having to merge.

### **2.5.3.3 Traffic Operations**

#### **North Sector**

Under Alternative 4V, traffic flow north of the Kennedy Center would be improved by the proposed new, more direct connection between Rock Creek Parkway and Potomac Freeway. The improved connection would divert southbound Rock Creek Parkway traffic away from the existing complex intersection of Virginia Avenue, 27<sup>th</sup> Street, and I Street.

Southbound parkway traffic seeking to access the Potomac Freeway and Roosevelt Bridge would use the new ramp built north of the Whitehurst Freeway overpass. Once on the freeway, traffic could access the bridge or continue past it and on to the new signalized intersection toward Independence Avenue.

Northbound traffic from the Potomac Freeway to northbound Rock Creek Parkway would no longer use southbound 27<sup>th</sup> Street. Instead, this traffic would use the direct connection created by the new ramp that would be built east of 27<sup>th</sup> Street and beneath K Street.

Northbound Potomac Freeway traffic would continue to have access to 27<sup>th</sup> Street and K Street, in approximately the same way as it does today. A new connection to southbound Potomac Freeway would be provided from 27<sup>th</sup> Street, replacing the existing connection through I Street.

#### **Center Sector**

In the Center Sector, access to the Kennedy Center would be provided by the new surface E Street connection to 23<sup>rd</sup> Street and the plaza circulation road connection to 25<sup>th</sup> Street.

Because the existing southbound Potomac Freeway to eastbound E Street Expressway ramp would be eliminated, eastbound traffic presently using this connection would be diverted to parallel access roads, most likely K Street and Virginia Avenue.

#### **South Sector**

In the South Sector, the proposed new signal would improve traffic operations at the Potomac Freeway/Ohio Drive intersection. Southbound Potomac Freeway traffic, including southbound traffic exiting from Roosevelt Bridge and destined for Ohio Drive and Independence Avenue, would be controlled, as would northbound Ohio Drive traffic destined for Rock Creek Parkway, which would now be required to make a left turn.

Through traffic continuing on to the Potomac Freeway would not be controlled, which is similar to the current condition. With the new connection to Rock Creek Parkway in the North Sector, higher traffic volumes can be expected to use the Potomac Freeway, reducing traffic on Rock Creek Parkway south of Virginia Avenue.

The addition of a traffic signal at the Potomac Freeway and Ohio Drive intersection would reduce vehicular conflicts and substantially improve safety.

Eastbound traffic from the Roosevelt Bridge destined for northbound Rock Creek Parkway would benefit from the improved ramp with a dedicated lane onto Ohio Drive.

### **2.5.3.4 Pedestrian and Bicycle Access**

Under Alternative 4V as under Alternative 4, pedestrian and bicycle access would be improved with new trails, pedestrian structures, accessibility facilities, and crosswalks. These improvements would provide access from the north, east, south, and the Potomac River on the west.

#### **North Sector**

In the north, much of the existing sidewalk network would continue to be utilized and the system would be extended to the new plaza. This would be accomplished by continuing an existing sidewalk on the eastern side of 25<sup>th</sup> Street from Juarez Circle up onto the proposed plaza. Pedestrian movements along 27<sup>th</sup> Street, between K Street and Virginia Avenue, would be improved by the construction of new sidewalks on both sides of the street, with pedestrian crossings at each intersection.

Access to the Center from Georgetown along the waterfront would be improved by a new trail connecting the Georgetown waterfront and the Rock Creek Parkway Trail in the vicinity of Thompson's Boathouse. From Virginia Avenue, pedestrians or bicyclists could either continue on the Rock Creek Parkway Trail or cross over to Virginia Avenue and points beyond. A benefit of creating direct traffic connections between the Rock Creek Parkway and the Potomac Freeway would be to reduce congestion at the intersection of the parkway with Virginia Avenue, making it safer for pedestrians and cyclists.

#### **Center Sector**

Pedestrians and bicyclists using the Rock Creek Parkway Trail would have the option of accessing the Kennedy Center from the west via the proposed bowed stairs to the River Terrace. This new link would provide these pedestrians and bicyclists with a quicker and safer access route to the Center. Bicycle parking facilities would be provided in the vicinity of the stairs.

Access to the Center from the east would be greatly enhanced by the addition of the plaza. Trails and sidewalks would be built along both sides of E Street as a component of the new, primary approach to the Kennedy Center and its re-established connection with the city. A new pedestrian connection would be created from the southeast corner of the plaza to 23<sup>rd</sup> Street, along the Potomac Naval Annex property.

The plaza would also be connected to the South Sector via new pedestrian/bicycle facilities, as described below.

### **South Sector**

In the south sector, expansion of the trail network would improve access to the Kennedy Center from the Roosevelt Bridge and create links to the Mall.

An existing pedestrian and bicycle route on the northern side of the bridge would be improved and connected directly to the new plaza and points beyond. The existing pedestrian walkway along the southern side of the Roosevelt Bridge would connect to a new pedestrian and bicycle facility about midway between the bridge landing and the new ramp to the Rock Creek Parkway. The proposed trail would loop back toward the Belvedere along Ohio Drive, then cross over to the westbound ramp from the Roosevelt Bridge to Constitution Avenue. It would then proceed parallel to the ramp and would be carried over the Potomac Freeway by a new elevated structure attached to the bridge carrying the ramp. The new trail would end at the southwest corner of the intersection of Constitution Avenue and 23<sup>rd</sup> Street. In contrast to the existing pedestrian walkway (to be removed) between the same two points, which crosses several ramps and roadways, the new path would be free of conflict points with vehicles.

A second new combined pedestrian/bicycle facility would be built in the South Sector, linking the intersection of Constitution Avenue and 23<sup>rd</sup> Street to the proposed plaza and points beyond. The proposed trail would start from the northwest corner of the intersection, near the site of the proposed new US Institute of Peace, and run parallel to the ramp connecting Constitution Avenue to Roosevelt Bridge westbound, from which it would diverge just past the Potomac Naval Annex to enter the proposed plaza. This new route would greatly facilitate pedestrian and bicycle access to the Kennedy Center from the western end of the National Mall.

#### **2.5.3.5 Transit Operations**

The ability of Alternative 4V to accommodate transit operations would be the same as described under Alternative 4.

#### **2.5.3.6 Urban Design Features**

**Deck.** The Alternative 4V deck reflects Viñoly's deck design for the area east of the Kennedy Center, as explained in Subchapter 2.5.3.1.

**Link to the Riverfront.** The S1 Alternative Bowed Stairs illustrated in Appendix A, Figure 2-6 and described in Subchapter 2.2.7.7 were selected for this alternative as a stand-in for analytical purposes for the ramp concept presented by Rafael Viñoly, because of uncertainty about the final design for the link between the riverfront and the Center. Under Alternative 4V, there would be a bow-shaped wharf extended over the river to accommodate the stairs, trail users, and people using the dock. The wharf would measure about 25 feet wide at its widest point and be about 300 feet long.